(No Model.)

T. H. MARTIN.

SEWING MACHINE.

No. 379,175. Patented Mar. 6, 1888.

FIG. 1.

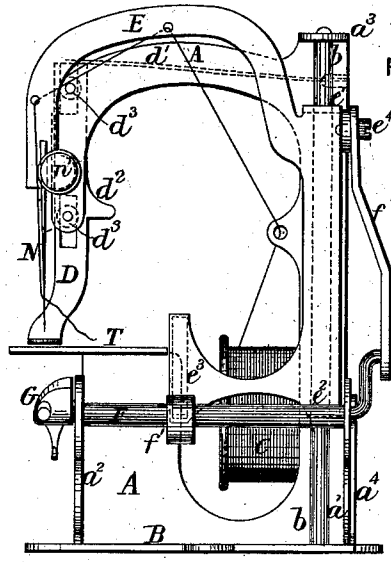


FIG. 3.

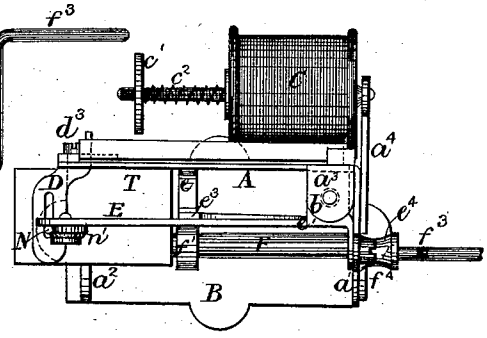


FIG. 4.

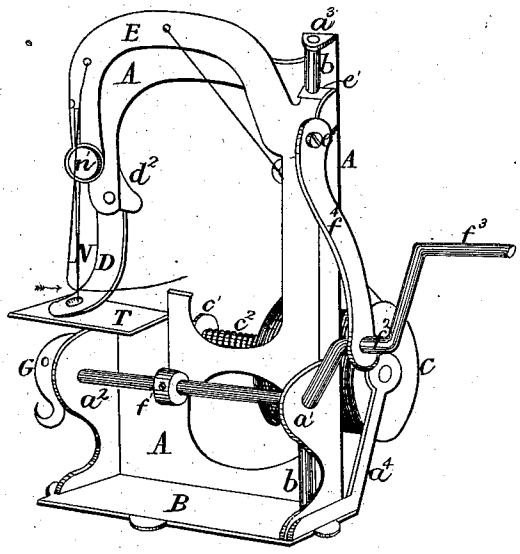
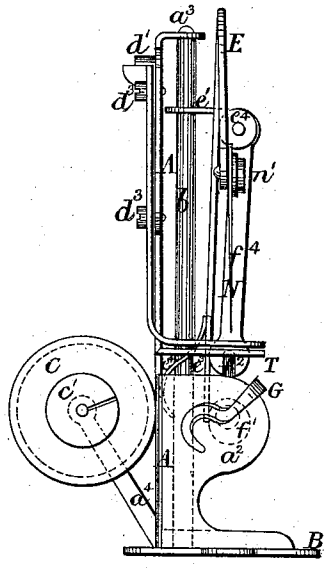


FIG. 2.



Witnesses.
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Robt Burnett

Inventor.
Thomas H. Martin.
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

THOMAS H. MARTIN, OF LONDON, ENGLAND.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 379,175, dated March 6, 1888.

Application filed April 13, 1887. Serial No. 234,727. (No model.) Patented in England September 29, 1886, No. 12,369; in France December 9, 1886, No. 180,203; in Germany December 14, 1886, No. 40,797; in Norway December 16, 1886, No. 290; in Belgium December 21, 1886, No. 75,673; in Sweden December 22, 1886, No. 1,009; in Spain March 11, 1887, No. 6,623/10,514; in Victoria April 27, 1887, No. 5,039; in Italy May 3, 1887, XLII, 306; in New South Wales July 30, 1887, No. 2,115, and in Austria-Hungary September 15, 1887, No. 12,354 and No. 35,948.

To all whom it may concern:

Be it known that I, THOMAS HERBERT MARTIN, a citizen of England, residing at George Street, in the city of London, England, have invented a new and useful Improved Sewing-Machine, (for which I have obtained patents in Great Britain, No. 12,369, dated September 29, 1886; in France, No. 180,203, dated December 9, 1886; in Belgium, No. 75,673, dated December 21, 1886; in Germany, No. 40,797, dated December 14, 1886; in Norway, No. 290, dated December 16, 1886; in Sweden, No. 1,009, dated December 22, 1886; in Spain, No. 6,623/10,514, dated March 11, 1887; in Victoria, No. 5,039, dated April 27, 1887; in New South Wales, No. 2,115, dated July 30, 1887; in Austria-Hungary, No. 12,354 and No. 35,948, dated September 15, 1887, and in Italy, No. 306, Vol. XLII, dated May 3, 1887,) of which the following is a specification.

This invention relates to a compact, simple, and cheap construction of chain-stitch sewing-machine such as is represented in the accompanying drawings.

Figure 1 is a side view. Fig. 2 is an end view. Fig. 3 is a plan. Fig. 4 is a perspective view of the machine.

The main frame consists of a back plate, A, with two projecting end pieces, a' a^2, at its lower part, and a projecting lug, a^3, at the top, the whole of this frame being preferably punched or stamped and bent in one piece from sheet metal and secured to a base-plate, B. To the lower part of the frame is fixed a bracket, a^4, holding a pin which carries the thread-reel C. To give tension to the thread this reel can be made to revolve with more or less friction by screwing or unscrewing a nut, c', so as to compress more or less a spring, c^2, which presses a washer against the end of the reel C.

On the front end of the frame A is fitted, to slide up or down, the presser-foot D, which is pressed down by a blade-spring, d', and can be raised when required by applying the finger to a projecting horn, d^2. The stem of the presser-foot has slotted holes through which pass two screws, d^3. A round vertical rod, b, is fixed at its upper end in the lug a^3 and at its lower end in the base B.

The needle N is fixed by a set-screw, n', to the needle arm E, which is preferably punched or stamped and bent in one piece from sheet metal. It has two lugs, e' and e^2, bent backward and bored to receive the rod b, so that the needle-arm can slide up and down the rod b and also turn round on it as an axis. From the lower part of the needle-arm projects forward a bracket-piece, e^3, which is pressed forward by a spring, e^4, against a cam, f'. This cam is fixed on the driving-spindle F, which works in bearings in the parts a' a^2 of the fixed frame. The one end of the spindle F is bent so as to form a crank, f^2, and a winch-handle, f^3, by which it is caused to revolve. The other end of the spindle F has fixed on it a revolving looper, G. The crank f^2 is connected by a link, f^4, to a pin, e^4, which is screwed in a lug projecting forward from the needle-arm E.

Above the looper G is fixed on the bracket a^2 the table T, on which is laid the fabric to be sewed. The thread from the reel C being passed through guide-holes and through the eye of the needle N, while the fabric is pressed on the table T by the presser-foot D, on turning the handle f^3, and so causing the crank f^2, the spindle F, and the looper G to revolve, the needle-arm E and needle N are caused to move up and down, and by the action of the cam f' and spring e^4 on the arm e^3 the needle is also caused to move to and fro horizontally, moving to the one hand while it is down in the fabric and to the opposite hand when it is up clear from the fabric. By the former movement of the needle the fabric in which the needle is then engaged is advanced the length of a stitch at every stroke of the needle while the needle is down.

As in most cases it is unnecessary to provide for more than one length of stitch, the cam f' may be fixed in one position on the spindle F. Should it be desired to provide for various lengths of stitch, the cam f' may be made to shift longitudinally along the spindle F, so as to act on the arm e^3 nearer to or farther from the axis b, on which the needle arm oscillates, the horizontal feeding stroke of the needle being thus increased or diminished, as may be desired.

Having thus described the nature of my invention and the best means I know for carrying the same into practical effect, I claim—

1. The combination, in a sewing-machine, of the back plate, A, having end pieces, a' a^2, and top lug, a^3, the vertical rod b, the needle-arm E, adapted to rise and fall and swing axially on the said rod, a presser-foot, D, a looper, G, and means for operating the needle-arm and looper, substantially as described.

2. The combination, in a sewing-machine, of a supporting-frame, the vertical rod b, the needle arm E, adapted to slide vertically and swing axially on said rod, the shaft F, having the crank-handle f^3, the cam f' on the shaft to swing the needle-arm, the link f^4, connecting the crank-handle with the needle-arm, the looper, and the presser-foot, substantially as described.

3. The combination, in a sewing-machine, of a supporting-frame, a vertical rod, b, the needle-arm E, adapted to slide vertically and swing axially on the rod and having the arm e^3, the spring e^4, acting on the needle-arm, the shaft F, having the crank-handle f^3 and the cam f', acting on the arm e^3, the link f^4, connecting the crank-handle with the needle-arm, the looper, and the presser-foot, substantially as described.

4. The combination, in a sewing-machine, of a supporting-frame, the vertical rod b, the needle-arm E, having the upper and lower lugs e' e^2 adapted to rise and fall and swing axially on the rod, the spring e^4, the shaft F, having a crank-handle, f^3, and a cam, f', acting on the needle-arm, a link, f^4, connecting the crank-handle with the needle-arm, the looper, and the presser-foot, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 18th day of March, A. D. 1887.

THOS. H. MARTIN.

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